

WHAT IS CLAIMED IS:

Reu 1. A method of fabricating a liquid crystal display device including a thin film transistor
2 formed at an intersection between a gate line and a data line, and a pixel electrode connected
3 to a source electrode of the thin film transistor and overlapped with at least one of the gate
4 line and the data line with having an organic insulating film therebetween, said method
5 comprising:
6 forming the thin film transistor, the gate line and the data line on a transparent
7 substrate;
8 forming the organic insulating film on the transparent substrate to a thickness of between
9 0.8 μ m and 1.5 μ m; and
10 forming the pixel electrode on the organic insulating film so as to be overlapped, by a
1 predetermined area, with at least one of the gate line and the data line.

Document Reference 1 2. The method according to claim 1, wherein a thickness of the organic insulating film
2 provided between the pixel electrode and at least one of the gate line and the data line is less
3 than 1.3 μ m.

1 3. The method according to claim 1, wherein a dielectric constant of the organic
2 insulating film is less than 3.0.

1 4. The method according to claim 3, wherein the organic insulating film is made from
2 Benzocyclobutene.

1 5. The method according to claim 1, wherein a parasitic capacitance in an overlapping
2 area where the pixel electrode is overlapped with said at least one of the gate line and the data
3 line is less than 0.0003pF.

1 6. The method according to claim 1, wherein a width of an overlapping area at which the
2 pixel electrode is overlapped with said at least one of the gate line and the data line is greater
3 than 1.5 μ m.

1 7. A liquid crystal display device, comprising:
2 a data line;
3 a gate line;
4 a thin film transistor formed at an intersection of the gate line and the data line;
5 an organic insulating formed on the thin film transistor, the gate line, and the data line
6 to a thickness of between 0.8 μ m and 1.5 μ m; and
7 a pixel electrode formed on the organic insulating film and connected to a source
8 electrode of the thin film transistor, said pixel electrode overlapping at least one of the gate
9 line and the data line.

1 8. The thin film transistor of claim 7, wherein the organic insulating film has a dielectric
2 constant of less than 3.0.

1 9. The liquid crystal display device according to claim 8, wherein the organic insulating
2 film is made from Benzocyclobutene.

1 10. The liquid crystal display device according to claim 7, wherein the thickness of the
2 organic insulating film is less than 1.3 μ m.

1 11. The liquid crystal display device according to claim 10, wherein the thickness of the
2 organic insulating film is between 1.25 μ m and 1.27 μ m.

1 12. The liquid crystal display device according to claim 7, wherein a parasitic capacitance
2 in an overlap area where the pixel electrode overlaps said at least one of the gate line and the
3 data line is less than 0.0003pF.

13. A liquid crystal display device including a thin film transistor formed at an
intersection between a gate line and a data line, and a pixel electrode connected to a source
electrode of the thin film transistor and overlapped with at least one of the gate line and the
data line with having an organic insulating film therebetween, wherein a thickness and a
dielectric constant of the organic insulating film are selected such that a signal delay is less
than 10 μ sec for each of the gate line and the data line.

1 14. The liquid crystal display device according to claim 13, wherein the thickness and the
2 dielectric constant of the organic insulating film are selected such that a liquid crystal pixel
3 cell driven with the pixel electrode charges to a voltage which is more than 95% of a video
4 data voltage within 1/2 of an enabling interval of a control signal for forming a channel of the
5 thin film transistor.

1 15. The liquid crystal display device according to claim 13, wherein the thickness of the
2 organic insulating film is less than 1.5 μ m.

1 16. The liquid crystal display device according to claim 13, wherein the thickness of the
2 organic insulating film is between 0.8 μ m and 1.5 μ m.

1 17. The liquid crystal display device according to claim 13, wherein the thickness of the
2 organic insulating film provided between at least one of the gate line and the data line and the
3 pixel electrode is less than 1.3 μ m.

1 18. The liquid crystal display device according to claim 13, wherein the thickness of the
2 organic insulating film provided between said at least one of the gate line and the data line
3 and the pixel electrode is 1.25 to 1.27 μ m.

19. The liquid crystal display device according to claim 13, wherein the electric constant
2 of the organic insulating film is less than 3.0.

1 20. The liquid crystal display device according to claim 19, wherein the organic insulating
2 film is made from Benzocyclobutene.

1 21. The liquid crystal display device according to claim 13, wherein a parasitic
2 capacitance in an overlap area where the pixel electrode is overlapped with said at least one of

3 the gate line and the data line is less than 0.0003pF.

1 22. A liquid crystal display device including a thin film transistor formed at an
2 intersection between a gate line and a data line, and a pixel electrode connected to a source
3 electrode of the thin film transistor and overlapped with at least one of the gate line and the
4 data line with having an organic insulating film therebetween, wherein a thickness of the
5 organic insulating film is between 0.8 μ m and 1.5 μ m.

1 23. The liquid crystal display device according to claim 22, wherein a dielectric constant
2 of the organic insulating film is less than 3.0.